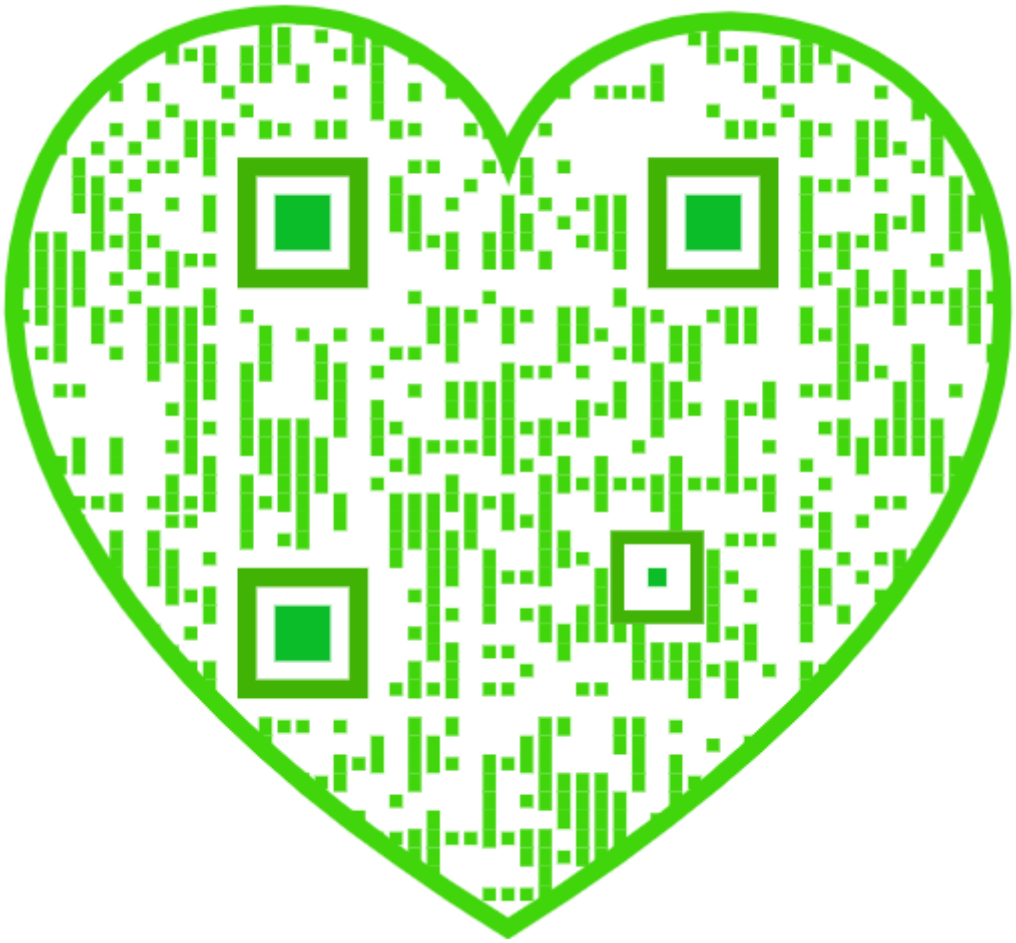
BRIEF DESCRIPTION

OF THE

HK 94

SEMI-AUTOMATIC RIFLE



General

The HK94 semi-automatic rifle, cal. 9 mm x 19 is a modern small arm produced in accordance with the most advance manufacturing methods. It permits semi-automatic fire from all positions with the bolt closed.
The HK94 is a recoil operated rifle with stationary barrel and delayed roller locked bolt system. The cartridges are fed either from a 15-round or from a 30-round magazine.

Note:
For reliable function only fully jacketed ammo should be used.

Existing models:
1. Rifle with fixed butt stock (Fig. 1)
2. Rifle with telescopic sight (Fig. 2)
3. Rifle from the right
4. Rifle with retractable butt stock (Fig. 4 and 5).

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Assemblies

1 Receiver and barrel, cocking mechanism and sights

2 Bolt assembly

3 Grip assembly and trigger mechanism

4 Butt stock

5 Handguard

6 Magazine

7 Accessories (page 20)

Fig. 6 Assemblies

DESCRIPTION OF ASSEMBLIES

Assembly 1 Receiver with barrel, cocking mechanism and sights

The receiver connects the barrel, cocking mechanism and sights. In addition, all assemblies are either contained in the receiver or attached to it (Fig. 7).
The barrel is press-fitted into the barrel extension and fixed in place by means of pins. The cocking mechanism is located above the barrel and is employed for manually cocking and loading the weapon and for securing the bolt in its rearmost position.
The sights consit of the front sight and rotary rear sight. The rear sight has 4 aperture positions; the apertures, which differ in diameter, all correspond to a uniform sight setting (sighting shot) for firing at ranges of 25 and 100 m. Being able to select a particular aperture diameter permits perfect individual aiming by means of the rear sight aperture, front sight and the outer circumference of the front sight cover. The rotary sight can be adjusted for elevation and windage.

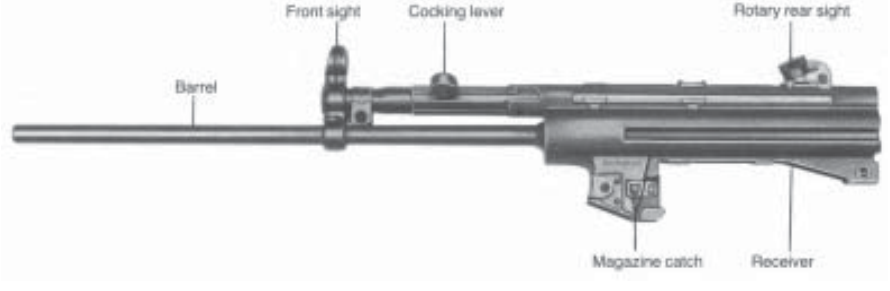


Fig. 7 Receiver with barrel, cocking mechanism and sights

Assembly 2 Bolt assembly

The bolt assembly (Fig. 8) consists of the following elements:

Bolt head carrier with recoil spring tube	(Fig. 9)
Recoil spring guide rod and recoil spring	(Fig. 10)
Bolt head with locking rollers, extractor and extractor spring	(Fig. 11)
Locking piece	(Fig. 12)
Firing pin spring	(Fig. 13)
Firing pin	(Fig. 14)

The bolt assembly is housed and guided in the receiver; in conjuction with the recoil spring, it feeds and fires the cartridge, extract and ejects the empty cartridge case after firing, and cocks the hammer.

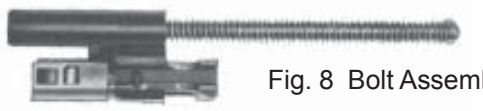


Fig. 8 Bolt Assembly

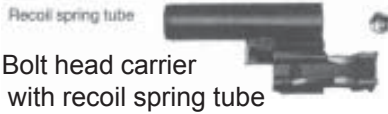


Fig. 9 Bolt head carrier with recoil spring tube

Fig. 10 Recoil Spring Guide rod with recoil spring

Fig. 11 Bolt head

Fig. 12 Locking piece

Fig. 13 Firing pin spring

Fig. 14 Firing pin

Assembly 3 Grip assembly and trigger mechanism

The grip assembly (Fig. 15) is hinged to the receiver, can be swung down and removed from it. It houses the trigger mechanism (Fig. 16) with hammer, ejector and the safety. The safety axle connects the trigger housing to the grip.

Fig. 15
Grip with trigger housing

Fig. 16
Trigger mechanism and safety

Assembly 4 Butt stock

Fixed butt stock
The fixed butt stock (Fig. 17) closes the rear of the receiver. It is connected to the receiver by a locking pin.
The sling holder is attached to the butt stock by means of tubular rivets, which are also employed for safekeeping of the locking pins when the weapon is field stripped.

Retractable butt stock
The fixed but stock can be replaced by a retractable butt stock (Fig. 18) when required.
The two guide rails on either side of the butt stock are guided in grooves on the receiver. They are secured by a locking catch in both the retracted and extended position.
A sling holder is attached to the back plate.

Fig. 17 Fixed butt stock

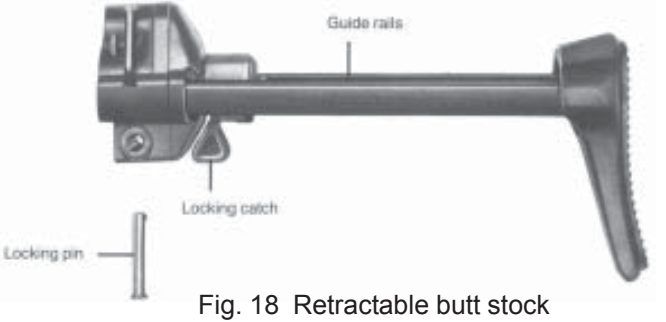


Fig. 18 Retractable butt stock

Assembly 5 Handguard

The detachabel handguard (Fig. 19) encircled the barrel from below. It is attached to the weapon by a locking pin.

Fig. 19 Handguard

Assembly 6 Magazine

The magazine holds 15 or 30 rounds and is employed for feeding the cartridges to the Rifle.

The magazine consists of:

Magazine housing	(Fig. 20)
Floor plate	(Fig. 21)
Follower with follower spring and locking plate	(Fig. 22)

Fig. 20 Magazine Housing

Fig. 21 Floor plate

Fig. 22 Follower, with follower spring and locking plate

ACCESSORIES

Multi-purpose carrying sling
The multi-purpose carrying sling (Fig. 23) is employed for carrying the rifle while permitting the shooter to fire immediately from all positions.

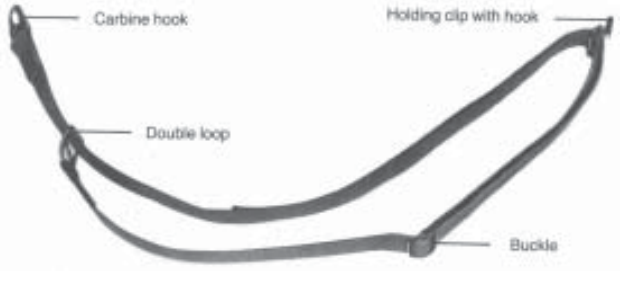


Fig. 23 Multi-purpose carrying sling

Telescoping sight

The telescopic sight (Fig. 24) is fixed to its mount by two screws. The receiver of the rifle is so designed that a telescopic sight can be attached to it **without any special arrangements.** (see pages 46-48).

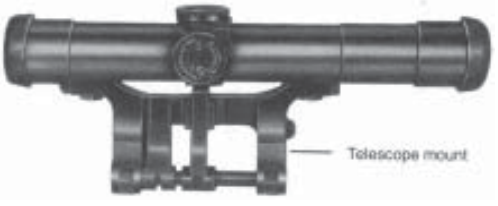


Fig. 24 Telescopic sight

HANDLING AND OPERATION

Filling the magazine
Hold the magazine in one hand (Fig. 25); with your other hand, place the cartridge in the magazine opening, pressing hte uppermost cartridge under the lip with your thumb.

Emptying the magazine
Hold the magazine in one hand, with the bullet end of the cartridges pointing toward your other hand (Fig. 26). Using your thumb, push the cartridges to the right, into your open hand.

Fig. 25 Filling the magazine

Fig. 26 Emptying the magazine

SAFETY FEATURES

The safety lever is located on the left side of the grip assembly and can bet set at:
“O” = Safe and “1” = Fire (Fig. 27 and 28)
The position selected is indicated also on the right side of the grip assembly.

How to put at safe
Set safety lever at “O”. The trigger cannot be squeezed. However, the rifle can be loaded while in “safe” position.

Firing
Fire: Set safety lever at “1”.

Fig. 27 Safe

Fig. 28 Fire

Inserting and removing of magazine

Put at “safe”!
Insert magazine into the magazine well (Fig. 29) until the magazine catch engages audibly.
To remove the magazine, push the magazine catch on the right side of the weapon (Fig. 30).

Fig. 29 Inserting the magazine

Fig. 30 Removing the magazine

Loading of rifle

Put at “safe”!
Pull cocking lever rearward with the left hand, engaging it in the recess of the cocking lever housing (Fig. 31).
Insert the filled magazine into the magazine well so that the magazine catch locks magazine audibly into position.

Allow cocking lever to snap forward (Fig. 32).
The rifle is loaded and in “safe” position.

Fig. 31 Retracing the cocking lever

Fig. 32 Releaseing the coking lever

OPERATING PRINCIPLE

The weapon is loaded and cocked, with the safety off.
Pulling the trigger releases the hammer, which strikes the firing pin. The cartridge is ignited. The powder gases thus generated drive the bullet out of the barrel. At the same time, these gases also exert pressure on the cartridge case.
This causes forces to act on the bolt head face; a portion of these forces is transmitted to he receiver and a portion to the bolt head carrier, via the locking piece; the balanced angular ratio of the locking piece and barrel extension results in a delayed recoil movement of the bolt head.
This guarantees that the bolt keeps the barrel locked until the bullet has left the muzzle

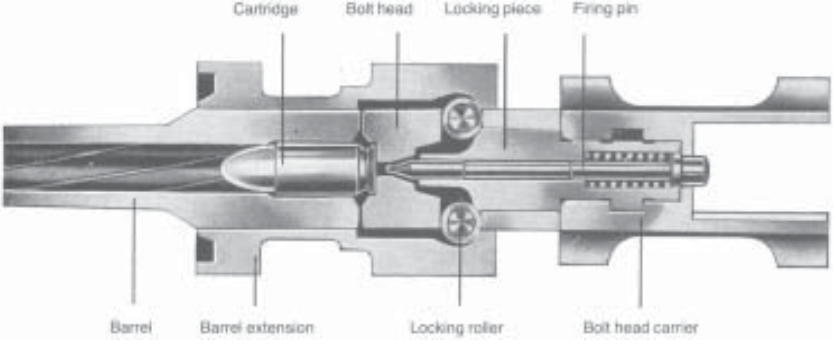


Fig. 33 Bolt in locked position

After the locking rollers have been fully cammed into the bold head, the bolt can continue its recoil movement. In the course of this movement, the empty cartridge case is ejected and the hammer recocked.
At the same time, the recoil spring is compressed, which returns the bolt to its forward position. During the course of this process, a new round is chambered from the magazine. The extractor engages the extracting groove in the cartridge case. As a result of the bevelled surfaces of the locking piece, the locking rollers are cammed against the supporting surfaces in the barrel extension (Fig. 34). The weapon is now ready to fire again.

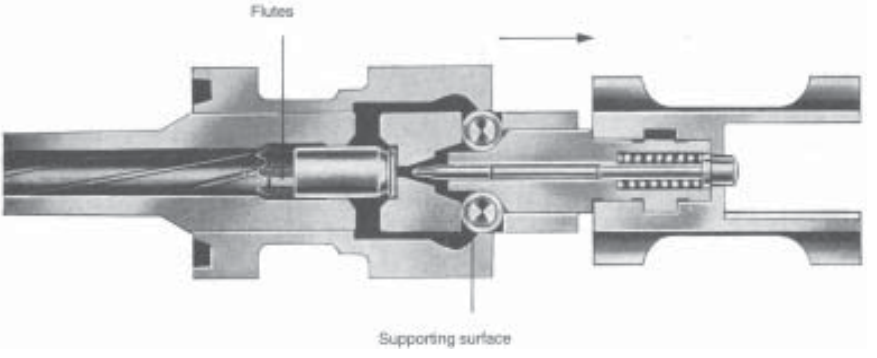


Fig. 34 Bolt in unlocked position

STRIPPING THE RIFLE FOR CLEANING

Engage the safety!

Remove magazine.
Unload chamber; retract cocking lever and make sure that the chamber is clear. Let the cocking lever snap forward.
Unhook carrying sling from front sight holder.
Remove butt stock locking pin and put it in the tubular rivets in the fixed butt stock.
Slide off butt stock and back plate (Fig. 35). Remove grip assembly. Retract bolt assembly by means of the cocking lever and remove it from the receiver (Fig. 36).
Remove handguard.

Fig. 35 Removing the butt stock

Fig. 36 Removing the bolt assembly

Stripping the bolt assembly

Remove recoil spring from recoil spring tube by edging it off in the rearmost position.
Rotate bolt head 90° toward your body and detach it from the locking piece. Remove locking piece, firing pin and firing pin spring from the bolt head carrier (Figs. 37 and 38).
To assemble the bolt assembly, insert firing pin, firing pin spring and locking piece into the bolt head. Insert all parts in the bolt head carrier in such a manner that the lug on the locking piece is guiding through the recess in the bore of the bold head carrier.
Rotate bolt head until you hear it engage.
Press recoil spring into the recoil spring tube.
Stripping the pistol grip with trigger mechanism
Uncock hammer (spring).
rotate selective fire lever until it is in a verticle position, then pull out.
Remove trigger assembly housing.
Note: Further stripping of the trigger assembly housing may only be performed by ordnance personnel. If the trigger assembly housing is severly fouled, it can be washed out in a cleaning solvent.

Fig. 37 Removing the bolt assembly components

Fig. 38 Stripping the bolt assembly

REASSEMBLING THE RIFLE

Attach handguard.
Insert the assmbled bolt with recoil spring into the receiver (locking rollers must rest inside the bolt head).
Attach grip assembly (Fig. 39).
(Set safety lever on grip assembly on “O”.)
Slide fixed or retractable butt stock onto receiver and insert locking pin.
Hook carrying sling into the eye on the front sight holder.
Check the proper reassembly of the rifle by performing several cocking motions.

Failure to function
On principle operate the cocking lever and continue firing. Should the rifle fail to fire, put at safe, remove the magazine, unload the rifle and ascertain the caus of malfunction.

Fig. 39 Reassembling the rifle

ADJUSTING THE ROTARY REAR SIGHT

Any corrections which may be required when sighting-in the weapon may only be performed by adjusting the rear sight for elevation or windage.

Elevation adjustmnet:
Insert elevation adjustment tool into the rear sight cylinder (Fig. 40) in such a manner that the wedges of the tool engage the two splines in the cylinder, which contain the catch bolts. Press Phillips-head screwdriver downward into the adjustment tool and hold firmly.
Rotate rear sight sylinder manually in the desired direction (rotating clock-wise lowers the strike 1.4 cm (0.55 in.) per click at a range of 25 m, rotating counterclockwise raises it correspondingly).
After performing the correction, withdraw Phillips-head screwdriver and remove elevation adjustment tool. The catch bolts will then reengage in the splines.
After performing the **elevation adjustment,** set the desire aperture again.

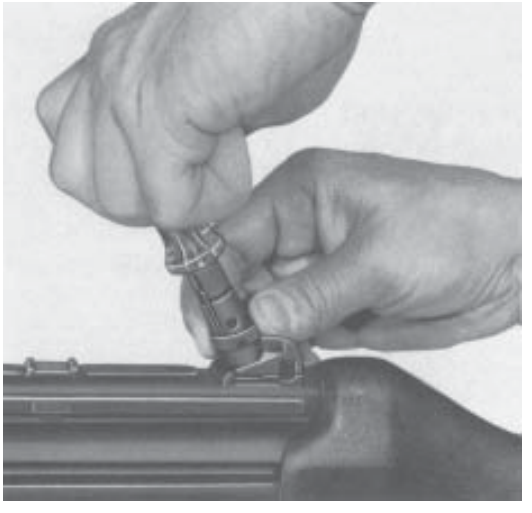


Fig. 40 Elevation adjustment

Windage adjustment:

Correction of left-hand deviation: Loosen clamping screw (Fig. 41). Turn adjusting screw (Fig. 42) counterclockwise, in accordance with the required correction. Then retighten clamping screw.
Correction of right-hand deviation: Loosen clamping screw (Fig. 41). Turn adjusting screw (Fig. 42) clockwise until the required correction is obtained. Then retighten clamping screw.
Note: Each revolution of the adjusting screw moves the mean strike 5.5 cm (2.16 inc) to the left or right at a range of 25 m.

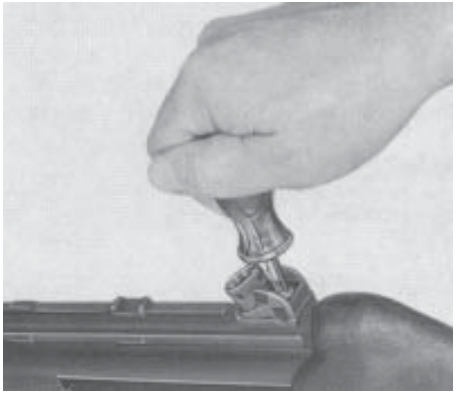


Fig. 41
Loosening the claming screw

Fig. 42
Turning the adjustment screw

USING THE HK94 SEMI-AUTOMATICE RIFLE WITH TELESCOPIC SIGHT

The telescopic sight is mounted as follows:

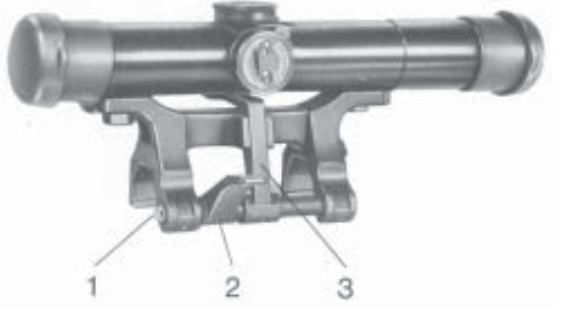


Fig. 43 Telescopic sight with mount

Before attaching, swivel the claws (43/1) on the mount outward.
Place mount on the rifle from above, keeping the mount tilted slightly to the right and rest its plastic nose against the sight cylinder.
Nost the inscription “direction of fire” and the arrow on the bottom of the mount.
Press clamping lever (43/2) downward until the catch (43/3) engages audibly. Raise clamping lever as far as it will go.

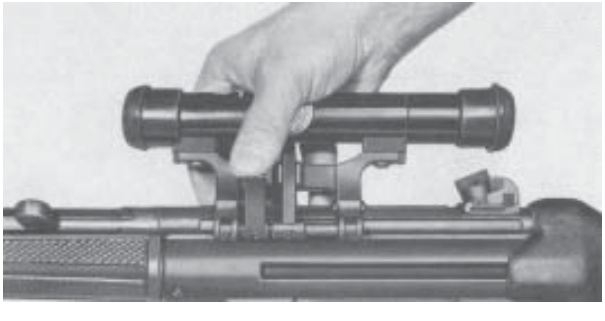


Fig. 44 Attaching the telescopic sight with mount

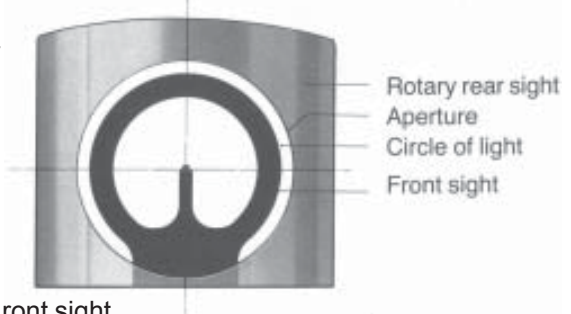
Removing the telescopic sight

To remove the telescopic sight with mount, push clamping lever downward.
Press catch downward with thumb and raise clamping lever again.
Tip telescopic sight with mount to the right and remove.

Fig. 45 Removing the telescopic sight with mount

AIMING

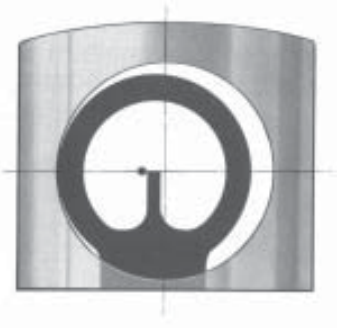
Before aiming, set the sights for the appropriate range and select aiming point (target).
Now aim at the target by means of the diopter hole and the front sight. Make sure that the target appears to be resting on top of the front sight post and is properly centered and that there is an even circle of light betwen the inner circumference of the diopter hole and the outer circumference of the front sight holder.
In this sight picture, the front sight is centered precisely in the diopter hole.
- Correct point of aim!-



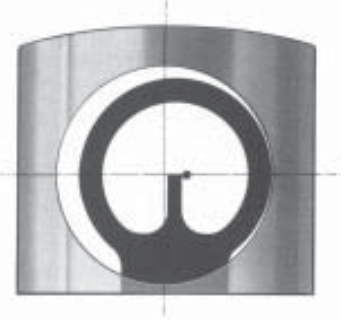
Correct point of aim
Even circle of light

Correct position of the ront sight

Aiming errors caused by uneven circle of light

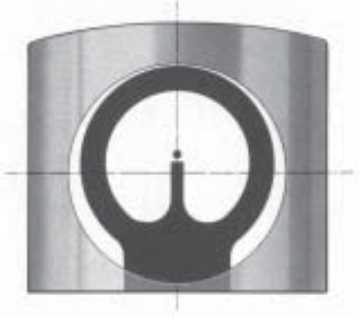


Impact as with incorrectly centered front sight = left

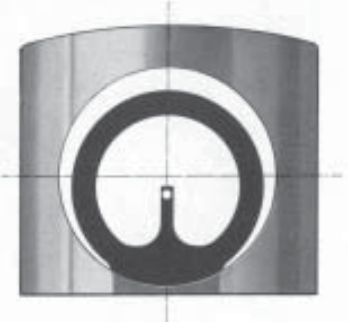


Impact as with incorrectly centered front sight = right

Aiming errors caused by uneven circle of light



Impact as with incorrectly centered front sight = high



Impact as with incorrectly centered front sight = low

TECHNICAL DATA

Calibre	9mm x 19
Sighting shot	25 and 100m
Weights	
Rifle with fixed butt stock without magazine	6.43 lbs. (2.92 kg)
Rifle with retractabel butt stock without magazine	7.18 lbs. (3.26 kg)
Steel magazine for 30 rounds empty	6.00 oz. (0.17 kg)
Steel magazine for 15 rounds empty	4.23 oz. (0.12 kg)
Cartridge	185 gr. (12 gr.)
Lengths	
Rifle with fixed butt stock	34.59 in. (878 mm)
Rifle with retractable buttstock	34.05 in. (865 mm)
Rifle with butt stock retracted	27.58 in. (700 mm)
Line of sight	13.39 in. (340 mm)
Barrel	16.54 in. (420 mm)
Cartridge case	0.74 in. (19mm)

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